HEPATO-CHOLANGIO-JEJUNOSTOMY.

FOR COMPLETE CICATRICIAL OBSTRUCTION OF THE HEPATIC AND COMMON DUCTS.

BY A. ERNEST MAYLARD, M.B., B.S. (LOND.),

OF GLASGOW,

Surgeon to the Victoria Infirmary.

ALTHOUGH the clinical aspect of the case I am about to report presents many features of peculiar interest, it is more with the particular operation performed that I am induced to publish it.

I will first narrate the history of the case and conclude with my remarks upon it.

W. McC., aged fifty-two years was admitted into the Victoria Infirmary on September 12, 1899, complaining of pain in his stomach, and vomiting. The onset of his symptoms he attributed to an accident which occurred twenty-two years ago, when he was struck over the lower ribs on the right side while at his work on the railway. This was immediately followed by a severe pain at the seat of injury which continued for several weeks. The pain lessened, and for a time he remained free for intervals sometimes of months. Some of these intermittent attacks were exceptionally severe, and on one occasion, about two years ago, an attack was accompanied by hiccough and vomiting for twelve days afterwards. He generally noticed after an attack some yellowness of his skin and conjunctiva, and on one attack, three years ago, there was severe jaundice which lasted for three weeks. The seat of the acute pain was usually in the epigastrium.

On September 23 the abdomen was opened in the middle line above the umbilicus, and, as the mischief was discovered in the region of the gall-bladder, a second incision running transverse to the first had to be made. On digitally exploring the involved region it was found that the gall-bladder had become, or was replaced by, a shrunken, indurated mass of tissue, em-

bracing in the matted area the liver, the pyloric end of the stomach, and the hepatic end of the transverse colon. The stomach was not dilated. An exploratory incision was made into it and the pyloric orifice digitally examined. No puckering as the result of ulceration could be detected, nor was the pylorus or the first two inches of the duodenum in any way obstructed. The colon was similarly opened and the involved region digitally examined. No constriction could be detected, but directly opposite the most markedly indurated mass a slight indentation was felt, suggestive of the possible healing of an opening through which a gall-stone might have passed.

There being no obstruction either about the colon or the pylorus, it was deemed unadvisable to attempt the severe measure of separating the intimately attached viscera. The wound was therefore closed.

On December 12, that is about eleven weeks after his operation, the patient reported himself; and the note taken of his condition at that time was, that he had gained ten pounds in weight and he was quite free from his old pain, which he never now felt.

The patient was lost sight of for nearly four years, when he presented himself at the hospital on October 1, 1903. The report of his condition at this time was that up to about three months ago he had enjoyed good health, but at this time he began to get jaundiced. He never, however, suffered any pain, and he had been able to keep to his work till about two weeks ago. On examination, he was seen to be very poorly nourished and muscles very flabby. His skin was of a uniformly yellow color all over his body. His appetite was very poor and he took very little food. Abdominal palpation revealed nothing,—no apparent enlargement of liver or dilatation of stomach. There was a marked ventral hernia at the upper part of the median cicatrix. The urine was deeply bile stained and the fæces clay colored.

On seeing the man on the present occasion, I felt that his jaundice possibly depended on some chronic obstruction to the hepatic or common duct, and, remembering the difficulties that I had experienced at the first operation, I could not see my way to make any further attempt to deal with it by re-exposing the parts. The patient accordingly left the Infirmary.

He presented himself again about seven months later on May 17, 1904, desirous that I would do something to remedy the ventral hernia, which was a source of trouble to him. His general condition had undergone very little change. His skin was still deeply bile-stained, and he presented all the symptoms of obstructive jaundice.

Believing the case to be one of chronic obstructive jaundice due to constriction either of the hepatic or common duct by old inflammatory adhesions, I determined to attempt a method which had been adopted successfully by Professor Kehr, of Halberstadt, in a similar case, that is to say, establish a communication between the dilated ducts in the liver substance and the duodenum.

The following operation was therefore performed:

The abdomen was opened by an incision along the course of the old transverse cicatrix and extended both in front and backward to give the required amount of room. Extreme matting of parts was encountered, and, although portions of adherent omentum were removed, it was found quite impossible to distinguish the pylorus and duodenum. The liver, which was much shrunken and of a deep mottled purple color, lay high up under the ribs. With the kind assistance of my colleagues, Dr. Grant Andrew and Dr. Elizabeth Pace, I was enabled, though with much difficulty, to stitch the jejunum to the margin of the liver for about two inches by means of a continuous sulphochromic-gut stitch. The liver was then incised for about one and a half inches, the bowel opened for the same extent, and the opposing surfaces beyond the two cuts were united by interrupted stitches.

The extreme friability of the liver and the depth at which we had to work rendered this part of the operation one of great difficulty. In order to avoid any possible tension on the stitched gut, for it seemed almost impossible for the stitches to secure a hold, the bowel was anchored at the upper part to some adherent omentum to relieve any possible strain on the bowel stitches. A separate incision was made posteriorly to drain the right lumbar fossa. It should have been noted that after deeply incising the liver there was very free oozing of dark purple fluid, which was to some extent checked by the application of the actual cautery.

The anæsthetic was given by Dr. David Lamb, and the operation lasted for an hour and fifty minutes. The patient was

a little sick after the operation, but otherwise he bore it well. He made an uninterrupted recovery, neither temperature nor pulse rising. On the second day after operation, it was thought that his motions were somewhat darker in color, but further than this transitory result, no other change in his general condition seems to have occurred. He left the hospital eleven days after the operation in order to be under his own medical attendant at home.

I saw him on June 16, when his wound was nearly healed; the only real difference in his general condition being that of slowly increasing emaciation and weakness. This condition of exhaustion seemed slowly to increase until he died about a month later. There was unfortunately no post-mortem.

Remarks.—A feature of special interest in the clinical history of the case concerns the injury which the man stated he received some twenty years ago, and from which time he dated his illness. The blow which he received over the lower ribs of the right side seems to have been a severe one, for not only was it followed by acute pain in the region, but for several weeks he was laid up with it. Except for this history of an injury, and the fact that pain had occurred off and on since its receipt at the seat of the blow, there was little else in the clinical symptoms to suggest what otherwise might have been regarded as a case of gall-stones, with such complications as are well enough known to accompany their impaction.

Even supposing no serious traumatic lesion had taken place in the deep parts about the region of the gall-bladder and ducts, it is still possible that gall-stones may have been present in the gall-bladder at the time of the accident, and through forcible dislodgement become the source subsequently of the symptoms from which the patient suffered.

At the time, however, of the first operation, I was, rightly or wrongly, lead to believe that the adhesions encountered, being so extensive and so dense, must have owed their origin to traumatism, and not to have been solely the result of inflammatory mischief secondary to impacted gall-stones. If gall-stones were at the bottom of the mischief, the adhesions

were certainly denser and more extensive than any I had previously encountered in operating for this condition. Having explored both the interior of the pylorus and the duodenum, and also examined the canal of that part of the colon involved in the matted mass, and finding that these channels were free and unobstructed, I did not attempt to detach the parts.

I need not follow the history of the case further. Chronic jaundice later set in, with none of the old attacks of pain. Emaciation and weakness slowly increased. If the ducts were becoming, or had become, completely blocked, as I believed by stricture or cicatricial contraction, any attempt to deal with the affected parts was out of the question, for if the separation of the adhesions was not possible at the first operation, I did not think it likely that I should be any more successful in a second attempt. Further, I was not able to entirely remove from my mind the thought that, though the long history of the case did not point to carcinoma at an earlier stage of his trouble, it was not out of the question that his later symptoms owed their manifestation to such a development; and the more possible did this aspect of the case appear, if, after all, gall-stones were at the bottom of the mischief.

There seemed to me, therefore, only one way of attempting to circumvent the difficulty, and that was by establishing a fistulous communication between the dilated bile ducts in the liver and the small intestine. I had as a precedent for such a proceeding a case recorded by Professor Hans Kehr, of Halberstadt, who, in a case of cicatricial contraction of the hepatic duct following,—it is supposed, upon a chronic duodenal ulcer,—succeeded in establishing a communication between the liver and the first part of the duodenum. There was one point of considerable difference in comparing the two cases, which rendered my own one of special difficulty and of doubtful purpose to deal with. While in Kehr's case the liver was moderately enlarged, in mine it was greatly shrunken. The history of the two cases probably accounted for this difference; for in Kehr's the symptoms were only of about a year's duration, in mine they dated back for several years; so that the gland in

the one case had not gone beyond the stage of biliary engorgement and active secreting power; in the other it had reached the stage of atrophy, and probably, therefore, diminished power of secretion. Another point of distinction between the two cases was that, while Kehr was able to unite the duodenum to the liver, I could only secure the jejunum at about from six to eight inches from the duodenojejunal bend; for, as has been already stated, the adhesions were so dense and extensive that I could not distinguish the duodenum.

The deeply situated and atrophied condition of the liver rendered it not possible for me to follow the course adopted by Kehr. He excised a portion of the liver six centimetres long and from two to three broad, and deepened the wound with Paquelin's cautery. I, on the other hand, had only room enough to make a simple incision and enlarge it somewhat with the cautery. It was owing to this incomplete opening into the liver that rendered it impossible for any marked result in the way of permanent drainage of the gall-ducts to take place. For, although there was some darkening of the motions noticed afterwards, it was quite temporary; and there is but little doubt that the wound in the liver healed, thus checking any further outflow of bile, supposing the hepatic cells were not too atrophied to secrete. As the man recovered perfectly well from the operation, it was my intention later to have opened the jejunum on the side opposite to that stitched to the liver, and then attempt to remove a sufficient amount of the hepatic substance to insure of a permanent fistulous communication with the bowel. I saw the patient shortly before leaving for my holidays, but on my return I learned that he had died from gradually increasing exhaustion. Unfortunately, there was no post-mortem, so that the question of calculus or malignant disease must still remain an unsolved question in the case.

The case recorded by Professor Kehr was operated upon on January 8, 1904. Four days after the operation, it was noted that the stools were brown, the urine much clearer, and the icterus less; and on February 6, four weeks after, when

the last note is made, the patient is stated as being much better and putting on weight.

The conception of the operation appears to have arisen with Marcel Baudonin in 1896, and Langenbuch in 1897; but to Kehr belongs the credit of having first successfully put it into execution. Kehr published his case in the *Zentralblatt für Chirurgie* of February 20, 1904, and in his comments upon it points out, what is equally well shown in my case, that the exposure of the raw hepatic surface to the interior of the intestinal canal was not followed by any rise of temperature or other indication of septic disturbance.

It is probable that the operation is one that will be but rarely called for, and then only for such cases where the hepatic or common duct is so inextricably involved in adhesions that they cannot be freed. But whenever its execution may seem desirable, these two cases appear to indicate that it may be safely undertaken without any fear of any immediate or comparatively remote dangerous effects.